DOCUMENT RESUME

ED 194 807 CE 027 248

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TITLE Measuring Impact of Demonstration Projects.
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SPONS AGENCY Office of Education (DHEW), Washington, D.C.
PUB DATE [Dec 80]
CONTRACT 300-78-0574
NOTE 15p.

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS *Demonstration Programs; Diffusion; Formative Evaluation; *Information Dissemination; Information Utilization; *Models; *Program Effectiveness; *Program Evaluation; Program Implementation; Program Validation; Success; Summative Evaluation; Technology Transfer; *Vocational Education

ABSTRACT

A proposed evaluation model for measuring the impact of demonstration projects in vocational education defines sets of criteria, standards, and documentation for both interim and final acceptable evidence of project impact. Interim acceptable evidence is that evidence of project success which should be expected during the demonstration grant period. Its purpose is to assess a project's success in terms of its immediate impact and readiness for adoption. Three types of evidence are required: demonstration impact. dissemination activities, and efforts toward institutionalization (integration into an on-going educational system). Each is defined by criteria and standards. Final acceptable evidence is that evidence of program impact which should be expected within two years after completion of the demonstration grant period. It addresses the issue of long-term impact and spread of the program to other schools and school districts. Three types of evidence--each defined by criteria and standards--are specified as components of final acceptable evidence: utilization, long-term impact, and continuation/adoption impact. (Criteria and standards defining both interim and final acceptable evidence are presented in both narrative and table form.) (YLB)

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MEASURING IMPACT OF DEMONSTRATION PROJECTS

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A. INTRODUCTION

The purpose of this paper is to propose an evaluation model for measuring the impact of demonstration projects. Demonstration projects in vocational education are part of the R&D to full utilization continuum. As a component of the dissemination process following R&D, demonstrations are specifically designed to serve as outward expressions and evaluations of educational practices with the intent of utlimately disseminating information about them to encourage their adoption at other schools or school systems.

Studies conducted by the General Accounting Office (1976) and a committee of the National Academy of Sciences (1976) have concluded that vocational education projects funded by the U.S. Office of Education have not had documented, widespread impact. Because of these and other findings, the Educational Amendments of 1976 included a sharpened demand for specific, identifiable benefits. Indeed, at several points the new legislation requires that grants and contracts be made only when the applicant demonstrates a reasonable probability that improved products or practices will result which will be used in a substantial number of classrooms or other learning situations within five years after the termination date of the federal grant award.

Given this requirement and the stated purpose of demonstration projects, their effectiveness should be evaluated against two major factors:

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The work reported here was supported by Contract No. 300-78-0574 from the U.S. Office of Education.

- extent to which the educational practice meets the stated objectives for its primary target group; and

- extent to which the educational practice is used at its original site and in other sites after the original funding is terminated.

Demonstration projects were and are largely funded by the federal government for three years, with the first year generally devoted to start-up activities; the second year devoted to full implementation of the program and the development of dissemination materials; and the third year continuing program implementation while emphasizing dissemination of information and opening the project to visitors in order to encourage adaption of the program in other sites. State education agencies generally fund demonstration projects for less time, but the three-phase model is still applicable.

In developing our evaluation system, it was felt that one should not wait until after the demonstration funding is completed before assessing the project against the two major evaluation factors stated above. A mechanism was desired under which an early evaluation could be made in order to make decisions regarding the continued funding of a demonstration. It was felt that if a project was not achieving its desired impact on its target population or if substantial progress was not made towards the development of materials for dissemination purposes, chances for eventual success would be slight and funding should be discontinued.

Thus, two sets of criteria were defined which could be applied to projects at different points in time -- the first set at a somewhat early point in time in which decisions regarding continued funding could be made; and the second set applied sometime after the demonstration project is completed to determine, among other things, whether the project was successful in obtaining quality adoptions at other schools and school systems. The sets of criteria are defined as:

(1) Interim acceptable evidence of project impact -- that evidence which should be expected during the life of the demonstration project; and

(2) Final acceptable evidence of project impact -- that evidence which should be expected within one to two years after the termination of the project.

B. METHODOLOGY

In developing our evaluation model, we began with a literature review to establish the state of the art in measuring successfully implemented and documented projects. From the literature review, a draft set of criteria, standards, and documentation for interim and final acceptable evidence of project impact were developed. These were reviewed and suggestions were made for revisions by an advisory panel representing various constituencies in the field of vocational education. Following the panel meeting, the interim and final evidence were revised and again reviewed by a second panel. The criteria were then applied to eight federal and state administered demonstration projects in order to assess their feasibility and practicality. Final revisions were then made.

C. INTERIM ACCEPTABLE EVIDENCE

Interim acceptable evidence is defined as that evidence of project success which should be expected during the demonstration grant period. Its purpose is to assess a project's success in terms of its immediate impact and readiness for adoption.

Answers to the following questions are to be provided by interim acceptable evidence:

- Did a demonstration project have the intended effect on the target population?
- What dissemination strategies were used?
- Did the dissemination materials contain sufficient coverage and details about the demonstration project so that it can be replicated?
- Have efforts been made toward institutionalization of the project?

Exhibit 1 outlines the criteria and standards which define interim acceptable evidence. Three types of evidence are required: demonstration impact, dissemination activities, and efforts toward institutionalization.

EXHIBIT 1

INTERIM ACCEPTABLE EVIDENCE

TYPES OF EVIDENCE	CRITERIA	STANDARDS
Demonstration Impact	Extent of short-term effects on demonstration project target group(s).	Significant intended outcomes which can be attributed to program intervention.
Dissemination Activities	Quality and extent of dissemination activities.	Dissemination strategies and materials include sufficient coverage and details of program to facilitate replication. Achievement of dissemination objectives as stated in the project plan.
Efforts Toward Institutionalization	Extent of attempts being made to ensure program longevity after completion of the grant period.	Efforts are being made for continued funding and staff training.

1. Demonstration Impact

Demonstration impact is defined as short-term effects on the demonstration project target group(s). It refers to the immediate impact the demonstration project has on its target population upon the conclusion of exposure to project activities. The project target population usually consists of students but can refer to other populations depending on the objectives of the project.

Criterion

The criterion for providing acceptable evidence of demonstration impact is the extent of short-term effects on the demonstration project target group(s). In other words, the criterion refers to the extent to which the project has its intended immediate effect on the target population. For example, to what extent did the students enrolled in the project learn what the project intended for them to learn?

Standard

The standard for acceptable evidence of demonstration impact is significant intended outcomes which can be attributed to the program intervention. The standard requires credible evidence that the claimed effects are attributable to the intervention. Thus, an appropriate evaluation design and data analysis plan is required. For example, pretest and posttest measures should be collected from both participant and comparison groups where appropriate. The standard also requires that reliable and valid measures be used in collecting the data. In assessing whether the standard has been met, the six questions employed by the USOE/NIE Joint Dissemination Review Panel for assessing project effectiveness should be answered (see Tallmadge, 1977). These questions are:

- Did a change occur?
- Was the effect consistent enough and observed often enough to be statistically significant?

- Was the effect educationally significant?
- Can the intervention be implemented in another location with a reasonable expectation of comparable impact?
- How likely is it that the observed effects resulted from the intervention?
- Is the presented evidence believable and interpretable?

2. Dissemination Activities

Dissemination refers to the spread of information about the project in the interest of having it adopted by other schools and school systems. Since adoption is a major goal of demonstration projects, dissemination is important in terms of making others aware of the program and providing technical assistance to adopting sites. As a criterion for interim acceptable evidence, dissemination may be considered an indication of project success, although it is not an impact measure. An assessment of dissemination activities evaluates a condition that is necessary but not sufficient for project impact in terms of spread and eventual adoption of the program at other sites. That is, successful dissemination is a necessary prerequisite for spread and adoption beyond the host site.

Criterion

The criterion for providing acceptable evidence of dissemination involves the quality and extent of dissemination activities. Quality refers to the coverage of relevant project information, while extent refers to the number of documents distributed and/or persons reached by each dissemination activity.

Standards

Two standards for dissemination activities are proposed as acceptable evidence of project success. These standards are:

Quality: dissemination strategies and materials include sufficient coverage and details of the program to facilitate replication; and

Extent: dissemination objectives as stated in the project proposal are achieved.

These standards answer the questions of whether coverage of the project, including costs, has been in sufficient detail to facilitate replication in potentially adopting sites, and whether the project has attained its dissemination objectives in terms of quantity of materials produced and numbers of persons or organizations reached. At a minimum, materials and presentations should include the following:

- Project objectives;
- Description of target audience;
- Program operations and services delivered;
- Expected project effects;
- Staffing requirements including position descriptions and qualifications necessary for filling these positions;
- Training requirements for staff, teachers, and others;
- Required facilities;
- Required materials; and
- Expected operating costs and per pupil costs, and procedures for determining them.

3. Efforts Toward Institutionalization

Efforts toward institutionalization refers to attempts to integrate the program into the ongoing educational system and plans for its continued support. It includes such things as infusing the project products into the ongoing curriculum, incorporating program materials into inservice teacher training programs or graduate courses for teachers, and obtaining approval of the state education agency for incorporation of the program materials into a state diffusion system or network, etc.

Criterion

The criterion for providing acceptable evidence of efforts toward institutionalization involves the extent of attempts that are made to ensure program longevity after termination of

the demonstration funding. This criterion is not considered an impact measure, but it is considered an important indicator of program longevity which should be measured in the last phase or year of the demonstration project, if not before. It addresses the question of what will become of the program after termination of the demonstration grant.

Standard

A minimum standard for efforts toward institutionalization is difficult to set because of the diversity of projects. However, minimum standards should include efforts to obtain alternative sources of funding and efforts to institutionalize staff training. The host organization must be in a position to continue funding the program after termination of the grant. A mechanism for training staff is necessary to compensate for staff turnover and to reinforce utilization of the program among present users. In addition to these minimum efforts, other activities addressing institutionalization should also be pursued. If efforts toward institutionalization are not evident during the last phase of the demonstration grant, it is unlikely that the program will survive.

Summary

The above three types of evidence (demonstration impact, dissemination activities, and efforts toward institutionalization) along with their appropriate criteria and standards make up interim acceptable evidence of project success.

Documentation for the evidence should be available during the last phase of the demonstration project funding period to assess demonstration project success. However, those evidences are not sufficient for assessing the final impact of a project. Final acceptable evidence, discussed below, is required in order to assess overall impact.

D. FINAL ACCEPTABLE EVIDENCE

Final acceptable evidence is defined as that evidence of project impact which should be expected within two years after completion of the demonstration grant period. It addresses the issues of long-term impact of the project and the spread of the program to other schools and school districts. Answers to the following questions are provided:

- How extensive is the spread of the innovation?
- Did the original demonstration project have a significant long-term impact on the target population?
- Does the innovation have a significant short-term impact on the target population when it is replicated?

Three types of evidences are specified as components of final acceptable evidence. As shown in Exhibit 2, these are utilization, long-term impact, and continuation/adoption impact.

1. Utilization

Utilization refers to the continuation of the innovative practice at the site of the former demonstration project and the spread of that innovation to other schools and school districts.

Criterion

The criterion for providing acceptable evidence of utilization is the extent of utilization and spread of the innovative practice. Specifically, this refers to the number of classrooms or other learning situations in which the practice is being implemented within two years after completion of the grant period.

Standard

Establishing a standard for acceptable evidence of utilization is difficult due to the variation in size, complexity, and

EXHIBIT 2

FINAL ACCEPTABLE EVIDENCE

TYPES OF EVIDENCE	CRITERIA	STANDARDS
Utilization	Extent of utilization or spread.	Program is being fully implemented in at least two sites.
Long-Term Impact	Extent of long-term effects on demonstration project target group(s).	Significant intended effects which can be attributed to program intervention.
Continuation/ Adoption Impact	Extent of short-term effects on target group(s) from continuing and adopting sites.	Significant intended outcomes which can be attributed to program intervention.

transportability of demonstration projects. Some projects with wide application should be expected to result in numerous adoptions, especially if they have the endorsement and support of the state education agency. Other projects with limited application should be satisfied with a smaller number of adoptions. Thus, the minimum standard for acceptable evidence of success in terms of use and spread is that the program be fully implemented in at least two sites within two years after completion of the grant period. These two implementations could include continuation at the host site and one adoption. More stringent standards can be set for specific projects.

As stated above, two full implementations are necessary for meeting the standard. This means that 100% of the program's core objectives must be implemented in these sites. This minimum standard is required to ensure the spread of high fidelity innovations from which outcomes can reliably be attributed and from which other adoptions and adaptions can spin-off. Although it is a common and usefull practice to take bits and pieces of different ideas to improve educational programs, this eclectic approach should not be labeled adoption for the purposes of this evaluation model since it will be difficult to attribute effects to specific innovations. Therefore, adoption rather than adaption is required for final acceptable evidence.

2. Long-Term Impact

Long-term impact refers to the effects of the project on the target population one to two years after exposure to it. To the extent possible, it attempts to answer the question of whether or not the program had any measurable lasting effects on the participants.

Criterion

The criterion for measuring long-term impact is the extent of long-term effects on the demonstration project targe group. Thus, for a program designed to teach specific job skills,

long-term impact addresses whether former participants were able to obtain and keep jobs in their specialty areas; whether they are moving up a career ladder and/or obtaining salary or wage increases; whether their supervisors are satisfied with their work; etc.

Standard

The standard for acceptable evidence of long-term impact is a significant intended effect which can be attributed to program intervention. An appropriate evaluation and analysis plan is required to show that the claimed effect is attributable to the intervention. As part of this, data should be collected from both participant and comparison groups and these data, if appropriate, should be related in the analysis process to the demonstration impact data collected as part of interim acceptable evidence. Reliable and valid measures of these effects are also required by the standard. In assessing whether the standard has been met, questions similar to those raised by the Joint Dissemination Review Panel (JDRP) (Tallmadge, 1977) for assessing project effectiveness should be answered. These are:

- Did something take place relative to the long-term objectives of the project?
- Was the effect consistent enough and observed often enough to be statistically significant?
- How likely is it that the observed effects resulted from the innovation?

3. Continuation/Adoption Impact

Continuation/Adoption Impact is defined as the short-term impact of the innovation on the target population at continuing and adopting sites. It is similar to demonstration impact of interim acceptable evidence in all respects except for the target population. Thus, it addresses the question of whether the program has similar and significant short-term impact when it is continued at the same site and when it is replicated at adopting sites as it had during its demonstration phase.

Criterion

The criterion for providing acceptable evidence of continuation/adoption impact is the extent of short-term effects on the target groups at the continuing and adopting sites. For individual projects, the same effects which were studied in the demonstration project for demonstration impact should be assessed here for participant and comparison (nonparticipant) groups within continuing and adopting sites.

Standard

The standard for acceptable evidence of continuation/adoption impact is significant intended primary outcomes which can be attributed to program intervention. This standard requires credible evidence that the claimed effects are attributable to the intervention in the same manner as demonstration impact was previously proven.

Summary

The above three types of evidence (utilization, long-term impact, and continuation/adoption impact) along with their appropriate criteria and standards make up what is termed final acceptable evidence of project impact. Only by meeting all standards for both interim and final acceptable evidence can a demonstration project be labeled successful in meeting the legislative mandate contained in the Education Amendments of 1976 of "improved teaching techniques or curriculum materials that will be used in a substantial number of classrooms or other learning situations within five years after the completion of a demonstration project grant." A more complete discussion, along with strategies for improving project effectiveness, may be found in Fleischman and Willette (1980).

It is recognized that the collection of the necessary data to implement the evaluation model proposed here requires some commitment from funding agencies. In view of the criticism of vocational education for not being able to document impact, however, support for evaluation data would seem to be a worthwhile priority.

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